**Primary, secondary and tertiary molecules**

**1)** Draw a primary, a secondary, and a tertiary alcohol for the molecule C5H11OH.

**2)** Molecule 1 below can be classified as a tertiary alcohol. Molecule 2can be classified as a tertiary

haloalkane.

|  |  |
| --- | --- |
|  |  |
| **Molecule 1** | **Molecule 2** |

Describe why both these molecules can be classified as tertiary.

Explain why Molecule 1 and Molecule 2 are not structural isomers of each other. (In your answer, you

should outline what a structural isomer is, and refer to both molecules.) Draw a structural isomer of

Molecule 1

**3)** Classify each of the following alcohols as **primary**, **secondary** or **tertiary** and explain your answer for

each substance

|  |  |
| --- | --- |
|  |  |
| **alcohol X** | **alcohol Y** |

**4)** Vitamin C has the following structure.

|  |  |
| --- | --- |
| Q6, Vit C, 90309 | Classify the –OH groups labelled **A** and **B** as primary, secondary or tertiary. |

**5)** Four alcohols with the molecular formula C4H10O are shown in the table below. Complete the table by

classifying each alcohol as **primary**, **secondary** or **tertiary**.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Name** | **Structural formula** | **Classification** |
|  | butan–1–ol | 90309q4(i) |  |
|  | butan–2–ol | 90309q4(ii) |  |
|  | 2–methylpropan–1–ol | 90309q4(iii) |  |
|  | 2–methylpropan–2–ol | 90309q4(iv) |  |

**6)**

|  |  |
| --- | --- |
| Vitamin C has the structure shown on the right. | **90309q2a** |

a) On the molecule circle the section that is an alkene and would readily react to decolourise bromine water.

b) Two of the -OH groups in the molecule have been labelled as (A) and (B). Classify these -OH groups as primary, secondary or tertiary alcohol groups.

© 2015 <http://www.chemicalminds.wikispaces.com>

NCEA questions and answers reproduced with permission from NZQA